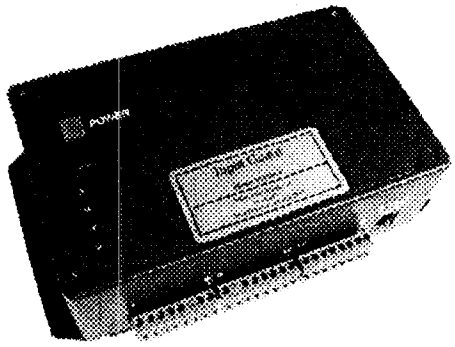
Input Guard

Models:
OMA-VM500-6
OMA-VM500-6R
OMA-VM500-6-LV
OMA-VM500-6-HV

User's Guide



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Operating Manual and Installation Instructions

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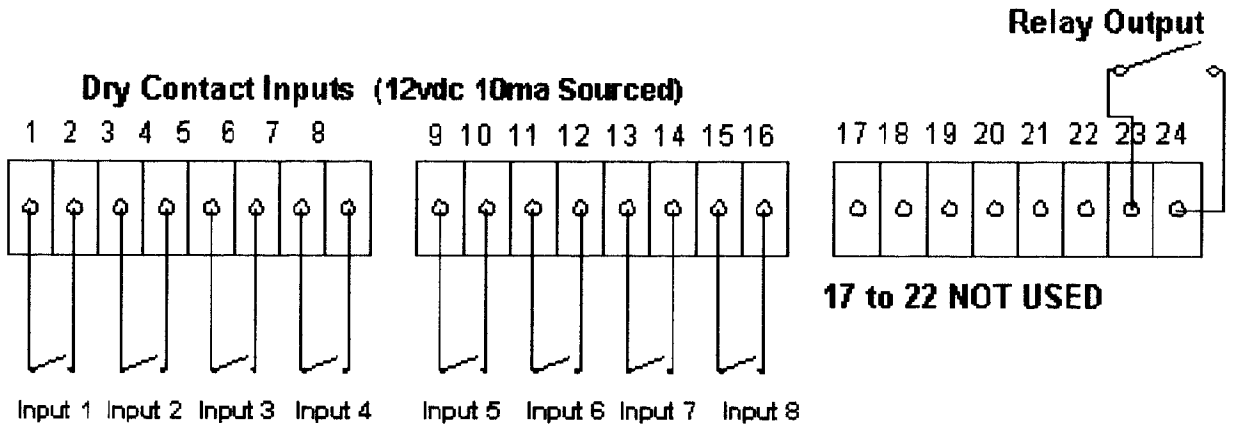
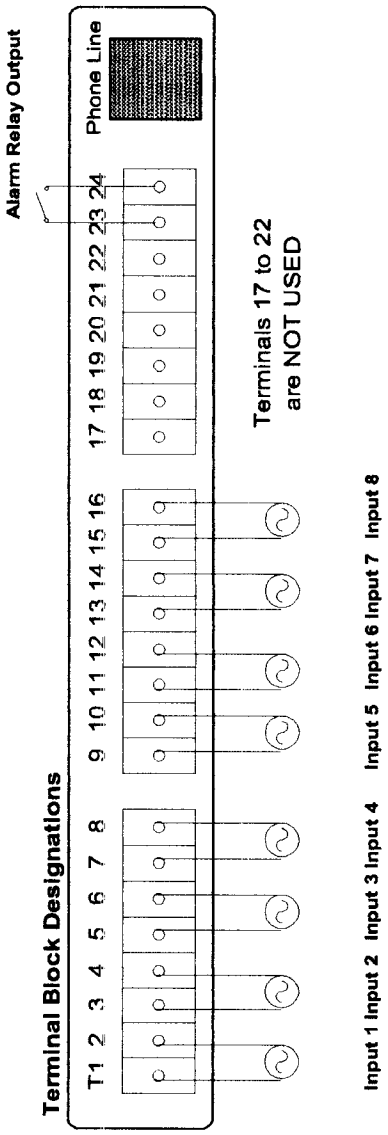
The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.
WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

OMA-VM500-6(R) Terminal Block Definition



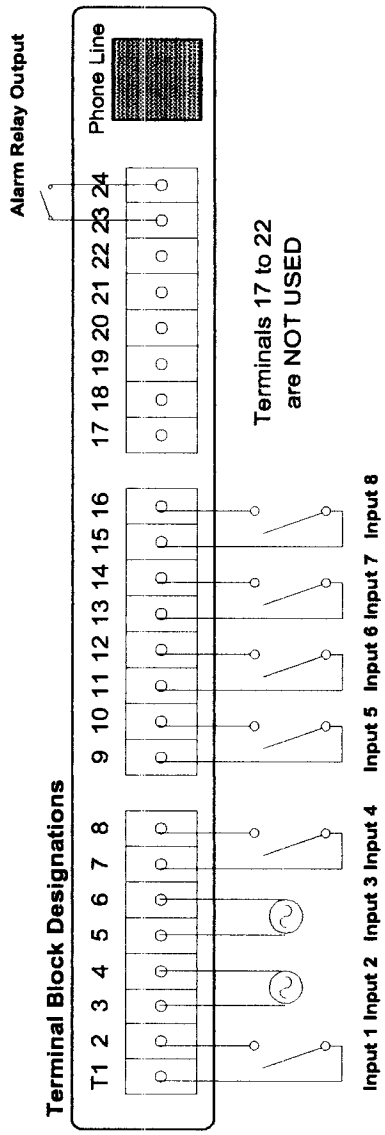


Model OMA-VM500-6HV

The model OMA-VM500-6HV accepts a/c voltages from 90vac to 135vac. Input current is limited internally by a 43k resistor. Each input circuit is isolated from the other and from the units power souce.

Testing the Inputs

To verify that the inputs are recognized by the OMA-VM500-6HV, remove the cover. Each input has an LED to indicate if an input is active or not. The LED will turn on whenever 120vac is applied.



Model OMA-VM500-6LV

Each input of the OMA-VM500-6LV is switch selectable to be either a 24vac/dc input or a dry contact input. The OMA-VM500-6LV comes shipped from the factory with all switches set to the 24vac/dc input type.

Setting the Input Type Select Switches

- Turn off the power to the unit.
- Remove the four screws holding the cover of the OMA-VM500-6LV.
- The eight switches are located on the center of the board and there is one for each input. Input 1 Type Select Switch is on the far left, and Input 8 Type Select Switch is on the far right.
- For dry contact inputs, move the switch to the UP position.
- For 24vac/dc inputs, move the switch to the DOWN position.

For the example above, the Input Type Select Switches for inputs 1, 4, 5, 6, 7, 8 must be in the up position. For inputs 2 and 3 the switches must be in the down position.

Testing the Inputs

To verify that the inputs are recognized by the OMA-VM500-6LV, remove the cover. Each input has an LED to indicate if an input is active or not. The LED will turn on whenever an input is active. For dry contact inputs, the LED will turn on when the contacts are closed. For 24vac/dc inputs, the LED will turn on whenever the voltage is applied.

General Description

The Input Guard monitors eight inputs for a change of state condition. With the built in auto-dialer, the Input Guard alerts key personnel with voice messages and or pager messages. For each of the eight inputs the user can program the following:

1. Define the input as normally open or closed
2. A time delay in minutes that the input must have changed for before making emergency phone calls
3. Record a five second message to define the input.

Installing the Input Guard

1. Select a location with access to power and a telephone line.
2. Connect the phone line to an active phone jack.
3. Plug in the wall mount transformer into a power socket of which you want monitored.
4. Connect the wall mount transformer power jack to the Input Guard on the top of the unit.
5. For ease of wiring, remove the terminal blocks.
6. Wire each input to the terminal block. See Wiring Diagram.
7. If desired, connect additional signaling devices to the alarm relay contacts at terminals 23 and 24. Alarm relay is dry contact rated at 5A 250VAC. See Wiring Diagram.

Setting up the Input Guard

Programming is accomplished over the phone and only has to be done once, unless it is necessary to make a change. Before programming, do the following:

1. Connect a phone line and power, and then turn on the INPUT GUARD by moving the switch located directly to the left of terminal 1 to the 1 position.
2. From another phone line dial the number where the INPUT GUARD is located. The device will pick up after the first ring.
3. When prompted, enter the 4-digit PIN number (Factory default PIN number is 0000).
4. You will hear the Main Menu options (you may enter your selection at any time):
    1. Status
    2. Input Setup
    3. Program

4. Turn on relay (OMA-VM500-6R only)
5. Turn off relay (OMA-VM500-6R only)
0. Hang Up

Programming Input Parameters

Each input can be programmed to be either a normally closed or normally open input. For powered input models OMA-VM500-6-HV and OMA-VM500-6-LV, power on will be considered a closed condition and power off will be considered an open condition.
Each input has its own time delay for which the input must have changed state for, before the Input Guard begins making emergency calls. The time delay is programmed in minutes.
Each input has a unique Input ID message that can be recorded to give further detail during emergency calls.

TIP: To have the Input Guard callout immediately program a time delay of 0 minutes.

1. From the Main Menu, press 2 to setup inputs
2. You will hear *"Enter Input"*
3. Enter the number of the input which you wish setup (i.e. 1)
4. You will hear *"Press 1 for normally closed input or 2 for normally open input"*
5. Enter your selection
6. You will hear the programmed time delay for the input (i.e. 0 minutes)
7. You will hear *"Press 1 to change"*
8. Press **1** to change the delay or press any other button to not change the delay. (If you do not press one, go to step 12)
9. You will hear *"Enter number then press pound"*
10. Enter the time delay in minutes (Valid times are 0 to 999 minutes), then press #.
11. You will hear the value you just entered (i.e. *5 minutes*)
12. You will hear the programmed identification message for the selected input
13. You will hear "Press 1 to change"
14. Press **1** to make a change or press any other button to not change the message (If you do not press one go to step 19)
15. You will hear a tone

16. Begin speaking after the tone. The INPUT GUARD will record for about 5 seconds
17. After 5 seconds you will hear the tone again, marking the end of your message
18. You will hear the message you recorded
19. You will be returned to the Input Setup Menu

Repeat the above steps for each input used.

Program Menu Items

To access the Program Menu:

1. From the Main Menu, press 3
2. You will hear the Program Menu options (you may enter your selection at any time):
    1. Primary Number
    2. Secondary Number
    3. Third Number
    4. Fourth Number
    5. Local ID
    6. Personal Identification Message
    7. Number of Rings
    8. Change PIN number
    0. Exit (return to Main Menu)

Programming Telephone/Pager Numbers

The INPUT GUARD stores up to four (4) emergency telephone or pager numbers. The INPUT GUARD will call each phone number until the PIN number is entered. If INPUT GUARD reaches an answering machine, it will leave your personal identification message, and then the alarm condition, but will continue calling.

First Time Number Programming:

1. From the Program Menu, Select **1** for the primary number, **2** for the secondary number, **3** for the third number, or **4** for the fourth number.
2. You will hear *"Enter number then press pound"*

3a. For voice phone numbers enter the full phone number **(1 + area code if necessary)** followed by the **#** key.

3b. For pager numbers enter ***** then enter the full pager number **(1 + area code if necessary)** followed by the # key.

4. You will hear the telephone number you just entered.
5. You will be automatically returned to the Program Menu

Note: If an extra delay between digits is required, entering * will provide a two second delay. Do not enter * for the first digit unless programming a pager number.

To program the second, third, and fourth numbers repeat above steps, entering 2, 3, and 4 respectively from the program menu.

To Change a Phone Number:

1. Select the phone number to change from the Program Menu
2. You will hear the selected telephone number
3. You will hear *"Press one to change"*
4. Press **1** to change
5. You will hear *"Enter number then press pound"*

6a. For voice phone numbers enter the full phone number **(1 + area code if necessary)** followed by the # key.

6b. For pager numbers enter * then enter the full pager number **(1 + area code if necessary)** followed by the # key.

7. You will hear the telephone number you just entered.
8. You will be automatically returned to the Program Menu

To Delete a Phone Number:

1. Select the phone number to change from the Program Menu
2. You will hear the telephone number you selected
3. You will hear *"Press one to change"*
4. Press 1 to make a change
5. You will hear *"Enter number then press pound"*
6. Enter the # key. This will erase the phone number
7. You will be automatically returned to the Program Menu

Programming a Local Identification Number For Pagers

The local identification number is printed on the display of a pager when the INPUT GUARD calls a pager number. The local identification number can be up to 20 digits long.

1. From the Program Menu, press **5** for the local ID
2. If this is the first time setup, go to step 6
3. You will hear the programmed number
4. You will hear *"Press one to change"*

5. Press **1** if you wish to make a change or press any other button to return to the Program Menu
6. You will hear *"Enter number, then press pound"*
7. Enter the number, followed by a #
8. You will hear the number you just entered.
9. You will be automatically returned to the Program Menu

Recording a Personal Identification Message

When the INPUT GUARD calls, it first plays this 5 second personal identification message. If no message has been recorded this message is skipped.

1. From the Program Menu, press **6** to record a message
2. If this is the first time setup, go to step 4
3. You will hear the recorded message
4. You will hear *"Press one to change."*
5. Press **1** if you wish to make a change or press any other button to return to the Program Menu
6. You will hear a tone
7. Begin speaking after the tone. The INPUT GUARD will record for 5 seconds
8. After 10 seconds you will hear the tone again, marking the end of your message
9. You will hear the message you recorded
10. You will be automatically returned to the Program Menu

Programming the Number of Rings

The INPUT GUARD answers the telephone line after the programmed number of rings. Valid numbers of rings are 1 – 25.

1. From the Program Menu, press **7** to set the number of rings
2. You will hear the programmed number of rings
3. You will hear *"Press one to change."*
4. Press **1** if you wish to make a change or press any other button to return to the Program Menu
5. You will hear *"Enter number then press pound"*
6. Enter the number of rings, then press #
7. You will hear the number of rings you entered
8. You will be automatically returned to the Program Menu

Programming the PIN Number

The INPUT GUARD uses a 4-digit PIN number (0000-9999) to identify you when calling the device or during callout procedures. After programming the PIN number write it down here. _____

The PIN number must be 4 digits and must not include a # sign.

1. From the Program Menu, press **8** to change the PIN number
2. You will hear the programmed PIN number
3. You will hear "*Press one to change.*"
4. Press **1** if you wish to make a change or press any other button to return to the Program Menu
5. You will hear "*Enter your PIN number*"
6. Enter a four digit number (do not put a # anywhere in your pin number)
7. You will hear the PIN number you just entered
8. You will be automatically returned to the Program Menu

How does an input become active?

An input is defined as active when its current state (open or closed) is the opposite of its programmed state and after this has been constantly the case for the amount of time programmed for time delay.
For example:
Input 1 is programmed as normally open with a time delay of 1 minute. Input 1 will be active when it is closed for at least 1 minute. The power input will be active when power is out for greater than 5 minutes.

What happens when an input becomes active?

1. The INPUT GUARD will close the alarm relay. (unless power is out)
3. The alarm buzzer will begin to sound. (unless power is out)
4. The INPUT GUARD will begin making emergency phone calls.

Pushing the white Alarm Off button on the face of the INPUT GUARD will cause the alarm buzzer to turn off and the alarm relay to de-energize. After the Alarm Off button has been pressed the INPUT GUARD will stop making emergency phone calls until a new emergency is present.

How do I activate and deactivate the relay? (Model OMA-VM500-6R only)

1. Call the Input Guard
2. Enter you PIN number
3. From the main menu press **4** to activate the relay or **5** to deactivate the relay

or

Press and hold the white push-button on the face of the Input Guard for at least 3 seconds to toggle the relay.

What happens when the INPUT GUARD calls?

1. If you have recorded a Personal Identification Message, it will be played.
2. The INPUT GUARD will report any alarm condition. For example "Alarm has been caused by Input 1, *(Your prerecorded input ID message)"*
3. The INPUT GUARD will ask for the PIN number
4. Once a valid PIN number has been entered, the INPUT GUARD will not call again because the current alarm condition has been acknowledged. The alarm buzzer will turn off and alarm relay will de-energize.

What happens when the INPUT GUARD calls a pager?

1. The INPUT GUARD will print your Local Identification number, followed by the status of all inputs, followed by the power status on the pager screen. For example, 1234**10100000**1, 1234 is the user ID, 10100000 would indicate inputs 1 and 3 are closed, and the last 1 indicates power is on.
2. The INPUT GUARD will continue to make calls until either:
    - The alarm condition goes away OR
    - The INPUT GUARD is called and the PIN number is entered

Calling the INPUT GUARD to check the state of the inputs and power status

1. Call the INPUT GUARD.
2. The INPUT GUARD will report the following:

- Any alarmed inputs
- If the power is out

To check the state of an input

1. Call the INPUT GUARD
2. Enter you PIN number
3. From the main menu press **1**
4. You will hear *"Enter Input"*
5. Enter the number of the input you wish to hear (i.e. 1)
6. If you wish to hear a full report of all inputs press **9.**

To check the status of the power

1. From the main menu press **1**
2. You will hear *"Enter Input"*
3. Enter *****

To check to status of the relay (OMA-VM500-6R only)

1. From the main menu press **1**
2. You will hear *"Enter Input"*
3. Enter #
4. You will hear the status of the relay

Connecting the INPUT GUARD to a Phone Line which has a fax or answering machine connected to it

Program the INPUT GUARD to answer after one more ring than the other device. This allows the other device to always answer first.
To call and access the INPUT GUARD

1. Dial the phone number
2. Hang up one ring before the other device answers.
3. Wait no longer than 30 seconds, then dial the phone number again.
4. The INPUT GUARD will answer.

Example:
A fax machine on the same line as the INPUT GUARD is set to answer after 4 rings.
The INPUT GUARD is programmed to answer after 5 rings.
To access the INPUT GUARD, dial the number, let it ring three times, then hang up. Wait 20 seconds and call again. After two rings, the INPUT GUARD will answer.

Verifying that the INPUT GUARD works with your phone line

To verify that the INPUT GUARD works with your phone line, perform the following test.

1. Using another phone line, call the INPUT GUARD and verify that it answers the phone
2. From the Main Menu, press **2** to setup inputs
3. Press **1** to setup input 1
4. Press **1** to make this input normally closed
5. Program a time delay of 0 minutes (See **Input Setup**)
6. Skip the input ID message recording for now.
7. Program the phone number you are calling from into the first phone number location. (See **Programming Telephone Numbers**)
8. Press '0' twice to exit the Program Menu and hang up the INPUT GUARD
9. Remove the terminal blocks to ensure input 1 will be open
10. The INPUT GUARD will close the alarm relay, sound the buzzer, and call out because input 1 is programmed to be normally closed and is currently open

If the INPUT GUARD does not answer the phone

Verify that the phone line is working. Connect a standard phone to the line intended for the INPUT GUARD. Verify that there is a dial tone.
Check that the phone line is plugged in securely.
Verify that the INPUT GUARD is powered up and the status light is blinking.

If the INPUT GUARD does not call out

Verify that the phone line is good. Connect a phone to the line intended for the INPUT GUARD. Verify that there is a dial tone.
Check that the phone line is plugged in securely
Verify that the INPUT GUARD is powered up and the status light is blinking
Verify that the INPUT GUARD is programmed correctly. Call up the INPUT GUARD and verify the programmed phone numbers and inputs setup.

FCC PART 68 INFORMATION

This equipment complies with Part 68 of the FCC Rules. The FCC Part 68 Label is located on the bottom of the unit. This label contains the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be provided to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those device ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

Connection to the telephone network should be made by using standard modular telephone jacks, type RJ11. The plug and/or jacks used must comply with FCC Part 68 rules. If this telephone equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in it's facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance in order for you to make necessary modifications to maintain uninterrupted service.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to tariffs.

If trouble is experienced with this unit, for repair or warranty information, please contact customer service at the address and phone listed below. If the equipment is causing harm to the network, the telephone company may request that you disconnect the equipment until the problem is resolved.

DO NOT DISASSEMBLE THIS EQUIPMENT. It does not contain any user serviceable components.

Optional 20 / 30 Hour Extended Batteries

If your unit has been ordered with an extended battery, it is installed at the factory. These batteries are trickle charged and can take up to a week to reach full capacity. The battery is charging whenever the monitor is powered on.

Notes

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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